SKETCH MAP OF THE QUARRY-SITE, ABOUT 100 FEET TO AN INCH.
The pitting is indicated by shaded areas and the shops are dotted.

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AN ANCIENT QUARRY

IN

INDIAN TERRITORY

BY

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AN ANCIENT QUARRY IN INDIAN TERRITORY

By W. H. Holmes

INTRODUCTORY.

The Mississippi valley, within a radius of 150 miles of St. Louis, has yielded a large number of flaked stone implements of exceptional beauty of form and material, and, in many cases, of unusual or even extraordinary size. Many of these objects are of whitish or light gray flinty stone classed usually as chert. This material, having various degrees of adaptability to the flaking processes, is found throughout a wide district, including portions of Illinois, Missouri, and neighboring states.

In many places evidences of manufacture have been observed, but usually the sites are nothing more than small shops where individual implements have been shaped or small masses have been worked up. It is apparent to the student of flaked stone tools that these limited shops could not have furnished the multitudes of fine specimens distributed over every part of the valley, and that the existence of great quarries must in time be discovered. These quarry sites, if such there are, may be so hidden away in wild and rugged regions and so obscured by forests that the attention of white settlers has never been called to them.

An important quarry site, considerably beyond the limits of the province referred to, being nearly 300 miles southwest of St. Louis, has recently come into notice. It is hardly to be supposed that the flint supply of the Missouri and Mississippi valleys could in any large part have been derived from this source, for the task of transportation would have taxed even the marvelous patience and endurance of our aboriginal workers in stone. The material produced on this site, however, corresponds very closely with that used in the St. Louis region, and a study of the refuse of the quarry shops demonstrates the fact that the classes of tools made are identical in many instances with those found so plentifully in that region.

DISCOVERY AND LOCATION OF THE QUARRY.

Early in October, 1891, my attention was called to a letter forwarded to Mr. G. K. Gilbert, then geologist in charge of the United States Geological Survey, from Joplin, Missouri, by Mr. Walter P. Jenney, the

geologist engaged in the investigation of zinc deposits. This letter related to the occurrence of an ancient flint quarry, and was accompanied by a small box of specimens which made it apparent at a glance that an important archeologic find had been made.

Mr. Jenney, while studying the zinc and lead mines of southwestern Missouri, had his attention called to a site located on Peoria lands in Indian Territory, and known locally as the "old Spanish mines." A visit by him developed the true nature of the ancient operations, and demonstrated at the same time the futility of the search for precious metals at the site. I at once resolved to visit the locality, and late in October had the pleasure of beginning the study of one of the most interesting examples of our great aboriginal quarries.

This quarry is situated on the Peoria reservation, about seven miles northwest of Seneca, Missouri, and some ten miles southeast of Baxter Springs, Kansas. From Seneca the spot is reached by driving northward along the Missouri border, for five miles, and then crossing the line and proceeding two miles in a westerly course through the forest. The country is a gently rolling plateau, with a gradual descent westward into the valley of Spring river, a branch of the Neosho, or Grand river, which falls into the Arkansas at Fort Gibson, Indian Territory.

The forest which covers the region about the quarry is open, and consists of a medium-sized growth of several varieties of oak, hickory, and other deciduous trees. Geologically the country seems rather featureless, save for the presence of flinty masses of chert that cover much of the surface and weather out in numberless rough fragments along the low ledges and terrace faces. Outcrops of this rock may be seen along the stream courses, but its gnarled and very forbidding appearance gives no encouragement to the advances of searchers for workable stone. It is only where fresh fractures are met that its true nature is discovered. Scattered over a wide range of country are seen evidences of ancient operations, and the refuse of flaking is quite common, showing that the aborigines thoroughly explored the country before settling down to the one choice site in the trackless forests of Spring river valley.

At an early date the whites learned of these ancient diggings, and work was undertaken by various parties and at wide intervals of time, with the view of discovering the precious metals supposed to have been sought by the Spanish or other peoples in early times. Several shafts were sunk in and about the old pits, some to the depth of fifty or sixty feet. As a matter of course, nothing of value was found. It is reported that some of the later explorers discovered iron tools of a primitive type in the ancient pits, but it is believed that these were left by our own pioneer miners, and that there is no evidence either that the Spanish were ever here or that the aborigines possessed metal tools.

The ancient quarry is situated mainly on the southern end of a low, rounded ridge, which rises perhaps forty or fifty feet above the dry branch bordering it on the west and falls off gently to the shallow water-

ways on the other sides, as partially indicated by the contours on the accompanying map (plate I). The beds of chert, which are of upper Subcarboniferous age, outcrop or approach the surface about the margins, forming in places a low, rounded scarp. The ancient implement-makers began work at the more accessible points along the margin and gradually, no doubt, and by long continued operations carried their trenches and pits far back into the surface of the terrace.

THE MATERIAL QUARRIED.

The chert worked by the ancient miners comprises numerous strata of considerable aggregate thickness and doubtless of great horizontal extent. Such exposures as occurred, or were made by my limited excavations, were not sufficient to give a good idea of the character of the formation, but the fine blocks and masses thrown out and left by the quarrymen indicate unusual massiveness and homogeneity. The fracture is conchoidal to a high degree, although the surfaces are granular rather than glossy, as in the flints. Flakes are removed with ease, and the fracture carries remarkable distances. It is not unusual to find flakes from six to ten inches in length, and they are often very attenuated. They are highly resonant and jingle like bells beneath the feet. Such portions of the chert beds as were uncovered by my workmen were much flawed and fractured, but the solid portions seemed extremely tough, refusing to break under the strokes of our light hammers. The color, as seen in the quarried masses and refuse, is creamy white or light gray, with occasionally very delicate mottlings of pinkish, reddish, and yellowish grays. Freshly removed from the bed it seems to be somewhat darker, resembling common varieties of hornstone. It is not improbable that fires used in mining or from burning forests have conspired to produce a chalky appearance in the surface fragments.

EXTENT AND CHARACTER OF THE QUARRY WORK.

In extent the work done in this locality does not compare with that accomplished on Flint ridge in Ohio or in the novaculite quarries of Arkansas, but was nevertheless quite extensive. The quarrying presents phenomena of unusual interest.

There are three principal groups of the ancient excavations, as shown on the map (plate I), the two clusters on the western side being connected by a narrow line of pits. The whole area covered by these diggings does not exceed four or five acres.

In the main the excavations took the form of roundish pits, but on the margins trenches of a hundred feet or more in length were carried along the ledges. Where the work was deep the refuse filled the preceding excavations and accumulated about the margins of the mines. It is not probable that many of the pits were more than ten or twelve feet deep. At present the greatest depth is about five feet, and the width of the roundish depressions rarely exceeds forty feet. In nearly

all cases the débris was allowed to accumulate in a ring around the margin and has descended into the excavations, many of which are entirely filled with the refuse of manufacture.

As in other similar cases, we are unable fully to determine the methods of quarrying, but further exploration will doubtless throw light on this point. In cleaning out one of the minor pits to learn something of

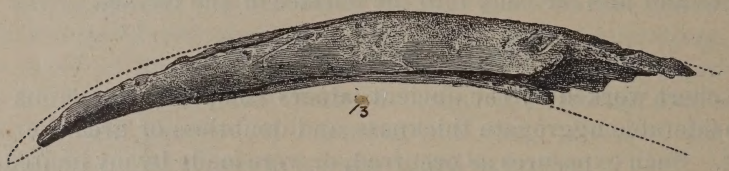


FIG. 1.—Fragment of antler, probably used as a pick.

the relation of an ancient oak that grew on its margin to the artificial deposits, I came upon two fragments of buck-horn. The better preserved of these was pick-shaped and about twelve inches long, and although much decayed it still bore evidence of having been worn by use in the mines. This specimen is shown in figure 1. Portions of the skeleton of a deer were found near the bottom of another pit. It is altogether probable

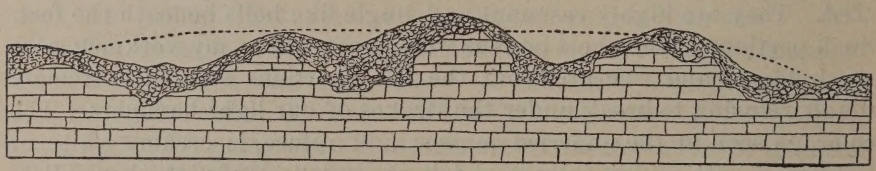


FIG. 2.—Section through a group of the quarry pits.

that buck-horn was used in the quarry work, for neither stone, bone, nor wood would be as suitable and serviceable; but when we turn toward the lines of pits excavated in compact, flinty strata, any tools save those of metal seem wholly inadequate to accomplish the results. If we assume that the cherty masses were uncovered or undermined with buck-horn picks and wooden picks and shovels, we find it necessary in

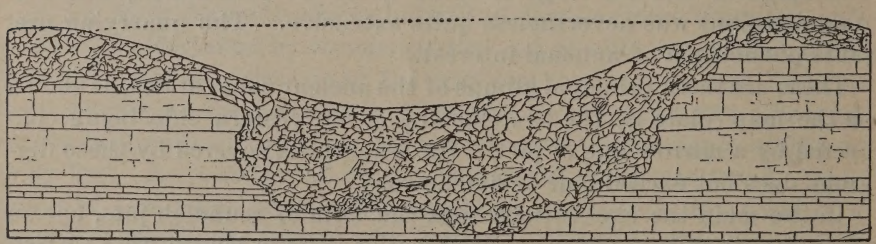
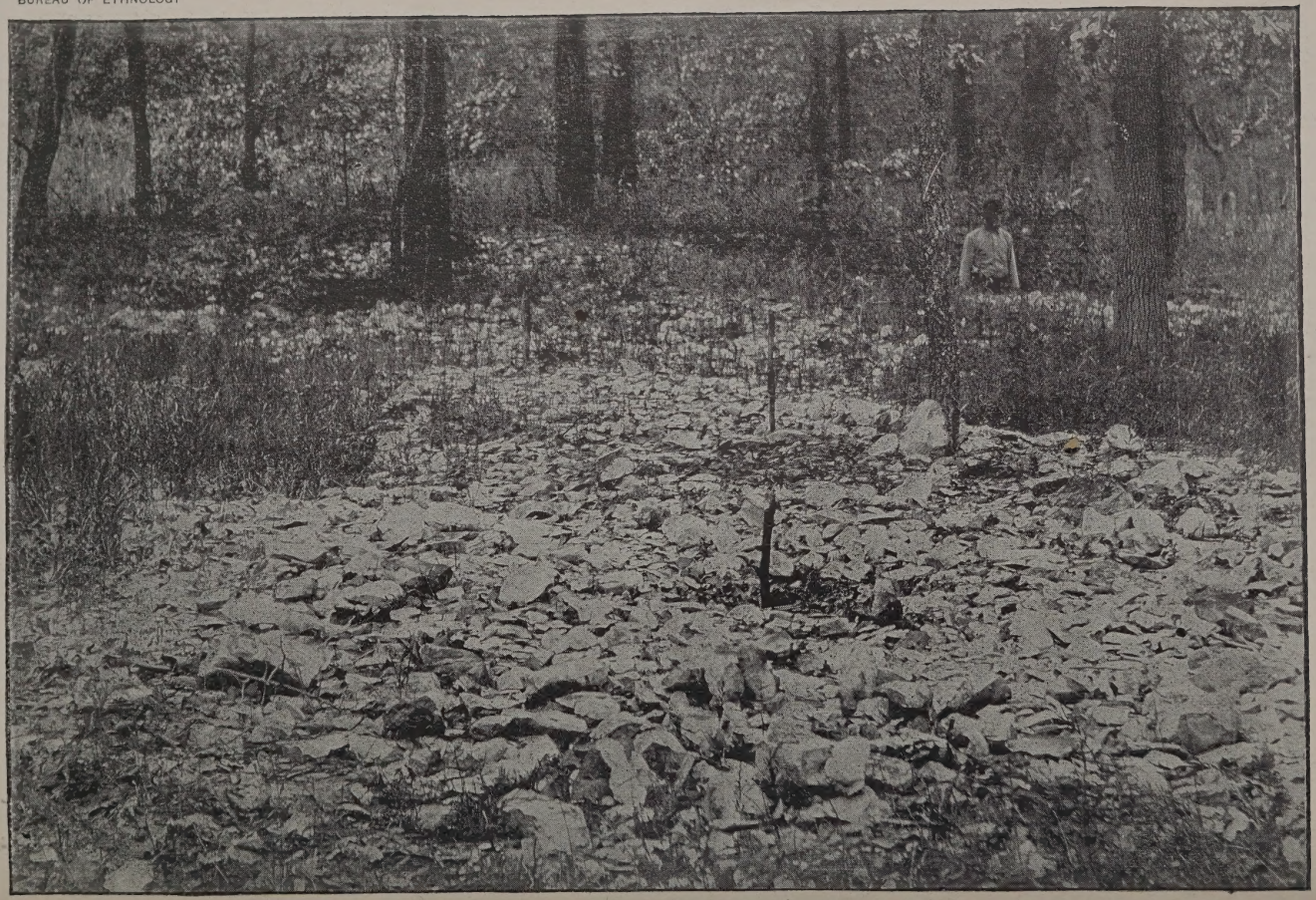


FIG. 3.—Section through a single pit well filled with shop débris.

addition to suppose that fire and water were used to fracture the masses and break them up. Frequently the pits were sunk to the upper surface of the horizontal strata, in which case even these latter agencies would be very difficult of application.



LODGE-SHOP SITES ON LEVEL GROUND NEAR QUARRY PITS.

The rings of flakes encircle fireplaces, in four of which sticks were set up when the photograph was made.

A section through a group of excavations is shown in figure 2. The dotted line represents the original surface. The pits are partially filled with refuse from continued excavation and manufacture. The section of a single pit is given in figure 3, which shows the heaping up of shop refuse on the margins. A general view of the half-filled pits and refuse-covered ridges is presented in figure 4.

THE WORKSHOPS.

The story of the working of this quarry and the management and manipulation of the stone is to be read with almost as much ease as if the work had closed but yesterday. The fragments and masses of fresh chert were selected and removed from the pits and the work of reduction and manufacture began. Shops were established on the margins of the pits, on the dump heaps, and at convenient points in the vicinity,

FIG. 4.—Present appearance of some of the smaller pits.

the distribution being something like that shown on the map, plate I, and in detail in figure 5.

The circular clusters of white chert refuse, shown in plan in figure 6, are clearly defined on the dark ground, and especially so after forest fires have destroyed the growth of weeds and small underbrush. In the center is a shallow depression which was the fireplace of the lodge; around this the workmen sat, and here are the fragments and flakes, the rejects and hammerstones left by them, covering about the space inclosed by the lodge, and hardly disturbed since the site was deserted. The photograph presented in plate II is probably the first representation of an aboriginal flaking shop ever brought out. Behind the principal shop are dimly seen a number of other lodge clusters, and beyond this among the oaks are the pits from which the stone was obtained. Before making the photograph I set up sticks in the fireplace depressions of the lodge circles and some of these may be seen in the picture.

In many cases these circular clusters are surrounded by lines or ridges of chert masses, just as they were brought from the quarry and deposited within the reach of the workman, indicating that the work was abandoned before the supply was worked up. In some cases flattish lumps of chert, used as seats by the workers and surrounded by piles of refuse, are seen. Not only are these shop phenomena thus fresh and undisturbed, but in some instances the flint seems hardly to have changed color or to have suffered in the least from weathering.

The shops are very numerous over the level space included between the three main groups of quarries, but as a rule they are not found more than 100 or 150 feet from the pits. Small trimming shops are found, however, much farther away, scattered through the forest and along the water courses. Probably these spots mostly represent camp or

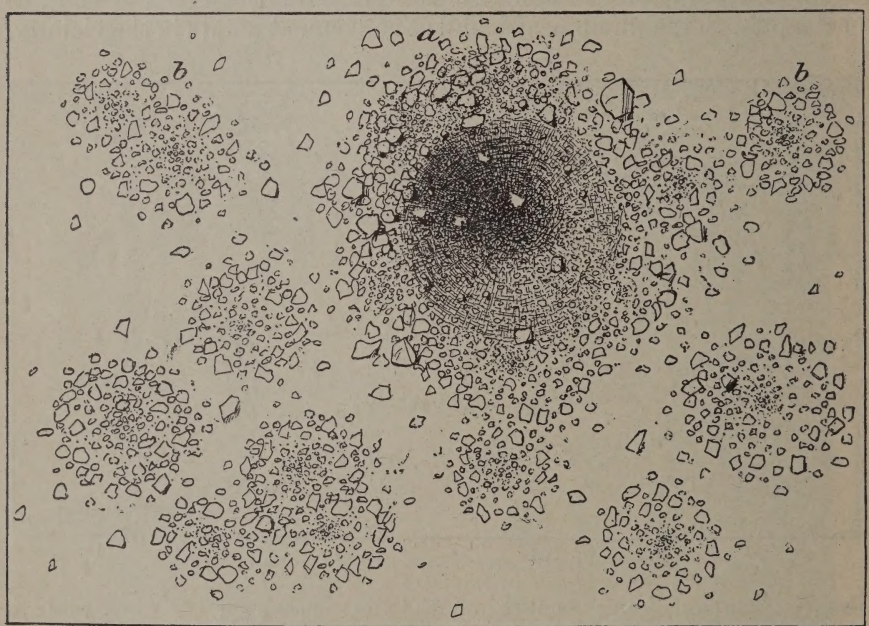


FIG. 5.—Relation of lodge-shop sites to the quarry pits. *a*, pit; *b*, *b*, *b*, shops.

lodge sites too far from the quarries to be ordinarily used as shops, but where the roughed-out pieces were occasionally trimmed and somewhat elaborated. On one of these a broken blade (figure 7), more neatly finished than any of the quarry-shop forms, was found.

Where the work has gone on for a long time near the quarry margins the accumulations of refuse are so great that separate shops are obliterated, a number coalescing in the general mass which, in some cases, reaches many feet in depth. Such an instance is illustrated in plate III, where the older pits are entirely filled up with masses, rejects, and clinking flakes of chert. One can sit on these accumulations and, without changing position, select bushels of the abortive implements and partially worked pieces broken under the hammer. The figure of

one of my assistants is seen in a partially filled pit, and other pits are visible in the forest beyond. Vegetation has hardly begun to encroach on these artificial beds of loose, angular chert.

THE QUARRY-SHOP PRODUCT.

In my report on the ancient quartzite bowlder quarries of the District of Columbia, published in the American Anthropologist, January, 1890, I gave a careful analysis of the evidences relating to the nature of the articles produced. It was shown that a study of the refuse could be made to yield a full knowledge of the work done on the

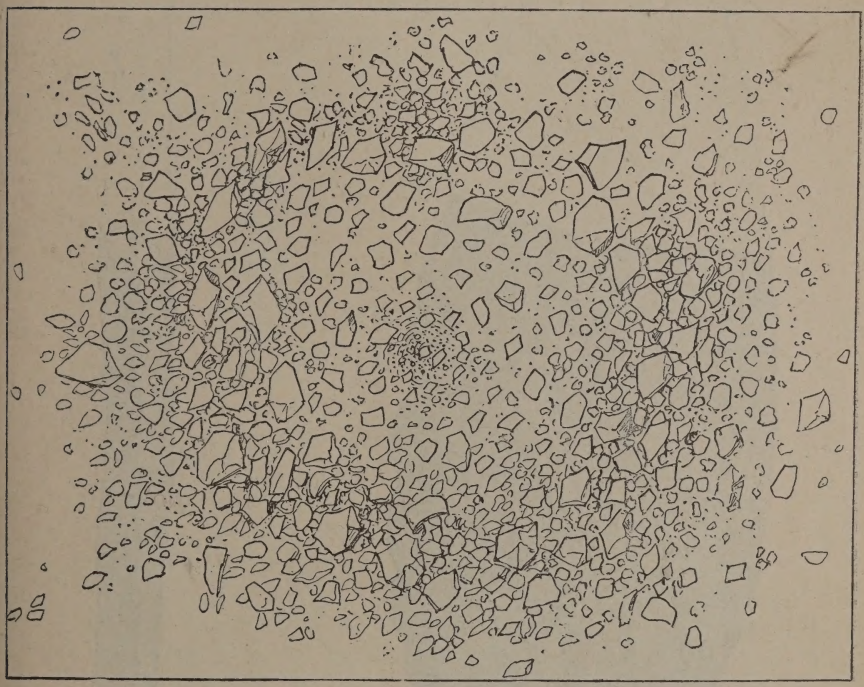


FIG. 6.—Plan of a lodge-shop site, showing fire pit and circle of refuse.

site; that on account of the brittleness of the material, implements in process of manufacture were necessarily broken at all stages of elaboration, some at the first stroke and others by what should have been the final stroke—that is to say, the stroke that, if successful, would have finished them so far as the quarry-shop work was intended to be final. This fact is in a general way true of all the quarry-shops.

It is observed here, as elsewhere, that as a rule little or no specialization of form was attempted on the quarry sites. If completed articles or implements are found intermingled with the refuse on any such site, it is because they were employed in the work of quarrying and shaping or because they were accidentally present and lost. The ordinary and almost the exclusive shaped product of these sites, aside from the ham-

merstones, was some form or blade or disk—a blank—intended, in most cases, no doubt, to be subsequently elaborated into an implement of more highly specialized form.

The product of the Peoria chert quarry was more than usually varied, but still remained strictly within these limits. The wide range of form is in a measure probably due to the nature of the material, which is

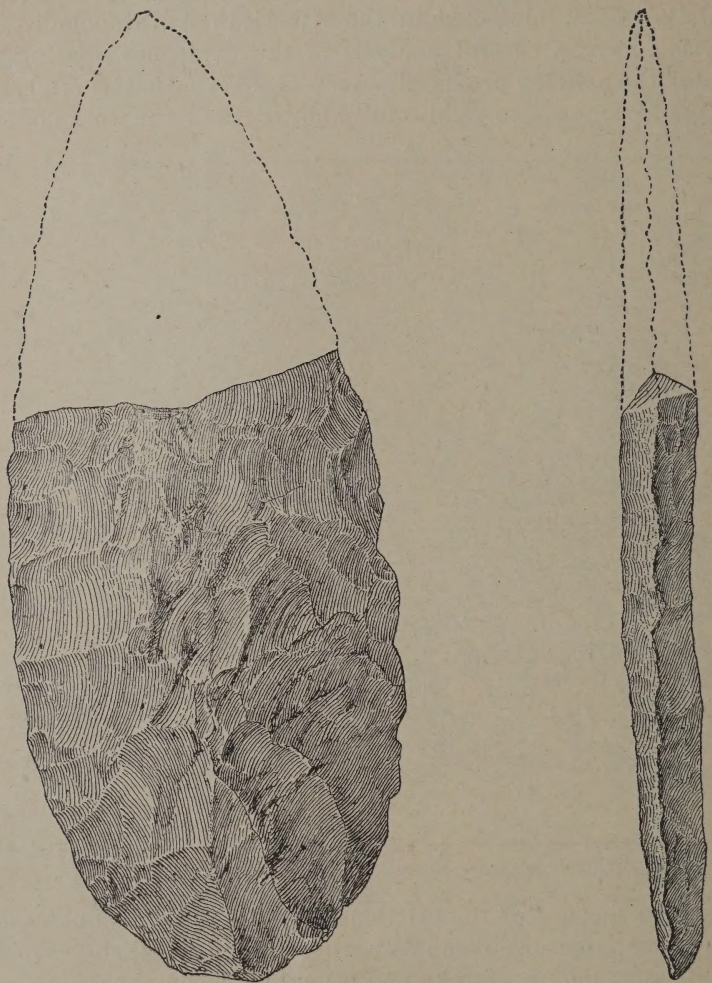
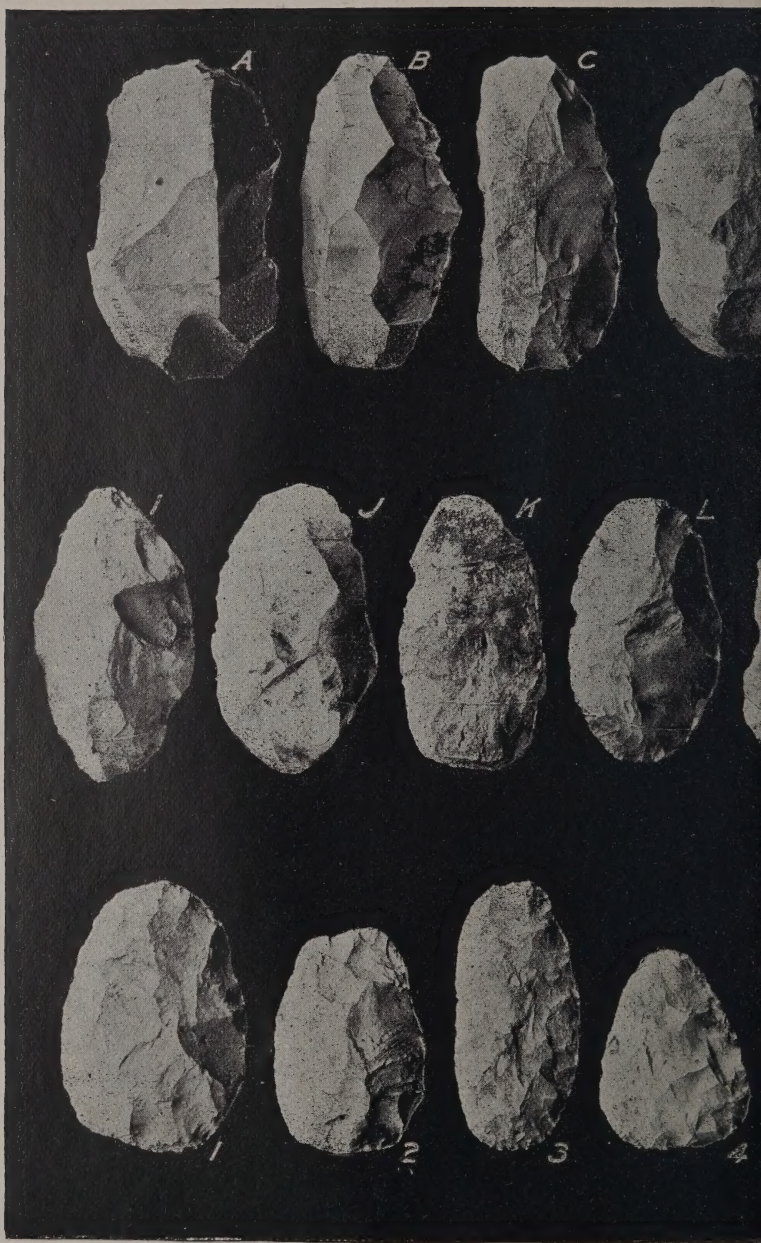


FIG. 7.—Fragment of thin blade from trimming shop.

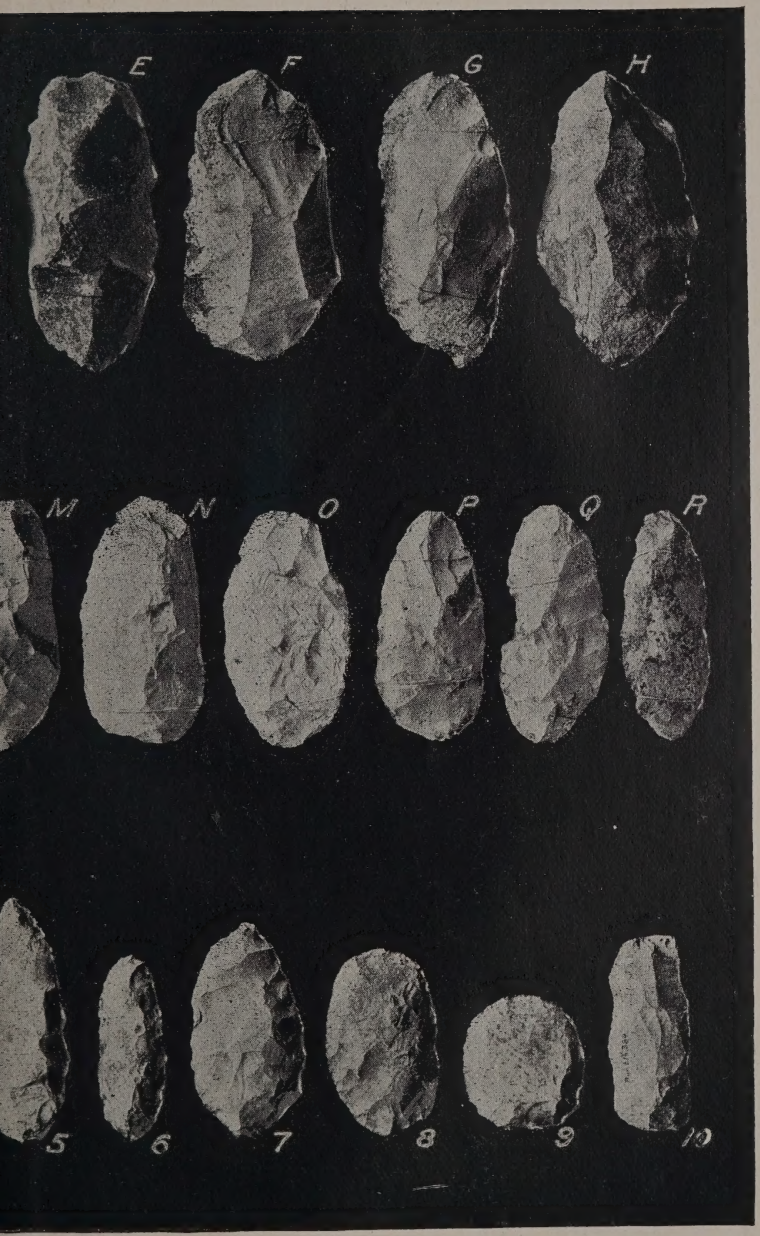
exceptionally tractable, yielding to the will of the workmen with much ease. If long, thin blades were desired, they could be made; if broad, strong, discoidal forms were needed, they could be shaped with equal facility. But no matter what the final forms in view were—and it is evident that such forms were generally in view—the quarry work covered only the incipient stages of shaping, i. e., the roughing out.

It is further evident that all the work was professional—that it was carried on by skilled specialists and intended to supply a general and



PROGRESSIVE SERIES OF REJECTS

The first and second lines illustrate a progressive series of rejects beginning with the
rejects indicating the range of blade outlines so far as represented in the q



RANGE OF WELL ADVANCED FORMS.

material at *A* and ending with a well-developed blade, *R*. The third line is a series of refuse. Figure 1 is shown full size in plate V. About one-fifth actual size.

BLADE OF MOST ADVANCED FORM FOUND IN QUARRY REFUSE.

It is possibly a finished piece unintentionally left on the quarry-site, as the form is symmetric and the thickness not greater than that of many implements of like form used in the Mississippi valley. Actual size.

permanent demand, and not for temporary or occasional use. The quarry was the factory wherein the raw material was prepared for market, and the shapes were carried only far enough to make transportation easy and profitable.

It seems probable that in many cases the characteristics of the material led to modifications in form and size of the articles made. The finer and more homogeneous masses encouraged the manufacture of long, broad blades; the more minutely divided or flawed pieces served to produce only small objects. The products of accidental fracture are often fantastic, and an imaginative people would readily be led into the elaboration of fanciful objects.

A careful examination of the shops over the whole site demonstrates the practical unity of the work. There are no indications of earlier and later periods of occupation. Although some shops have more decided appearance of newness than others, the difference of time represented may not be more than a few generations. In one place the refuse indicates that blades of a limited range of form were produced to the practical exclusion of other forms, though this may be the result of the adaptability of the material to the production of such shapes, or to a temporary demand for particular forms. In other places we have evidence of the making of all forms and sizes in the same shop, and possibly by a single workman at one sitting.

An extensive collection of the worked pieces was made, and some thirty boxes were forwarded to the Bureau of Ethnology. The points kept in view in making selections are as follows: It is important, first, to illustrate all stages of the work, all processes of manufacture, and all forms produced; second, a full series of the more finished pieces is necessary to indicate the probable intention of the workman with respect to final forms; and third, the collection must needs illustrate the stone in color, cleavage, and fracture.

The largest of the failures are quite massive, each weighing 20 pounds or more, and are as much as 15 or even 18 inches long, 10 inches wide, and 6 inches or more in thickness. These represent rejections resulting from the selection of workable stone for large implements, impurities and flaws having been developed by the first few strokes. It appears that masses so large as here indicated were generally very much reduced in dimensions before the roughing-out process was complete. The average length of the more ordinary thick rejects would probably not exceed 6 inches. It is only rarely that specimens are found less than 4 inches in length by say 2 inches in width and half an inch in thickness.

It is a striking fact that in the thirty boxes of flaked specimens obtained from this site there was no single piece that could be called an implement; though all were shaped forms and many of them quite well advanced, we can not assume that any were finished, and there is really no means of determining, save in the most general way, what relation

any of the specimens have to the final forms the workman had in view or that specialization would finally produce.

It happens that no finished flaked implement safely assignable to this quarry has ever been collected at the quarry or elsewhere. My visit was to the quarry alone, and I had to deal with rejectage exclusively. What the fields and valleys of the Neosho or more distant regions may yield is yet to be determined. It is probable that implements of this cream-colored chert comprising the full range of flaked forms will be found when search is made, but judging by the quarry-shop rejectage a very considerable percentage will be of large size, including spear points, knives, scrapers, hoes, and even celtoid forms.

The quarry-shop shapes, taking those approaching most nearly specialization and apparent finish, serve as our only key to the intentions of the workmen. Series of these forms are shown in the last line in plate IV. Having been left scattered through the refuse in numbers it is assumed that all are rejects, and it appears that rejection must have been mainly on account of too great thickness or defective outline or texture. Many of these pieces bear evidence of repeated but ineffectual efforts to reduce thickness and remove excrescences.

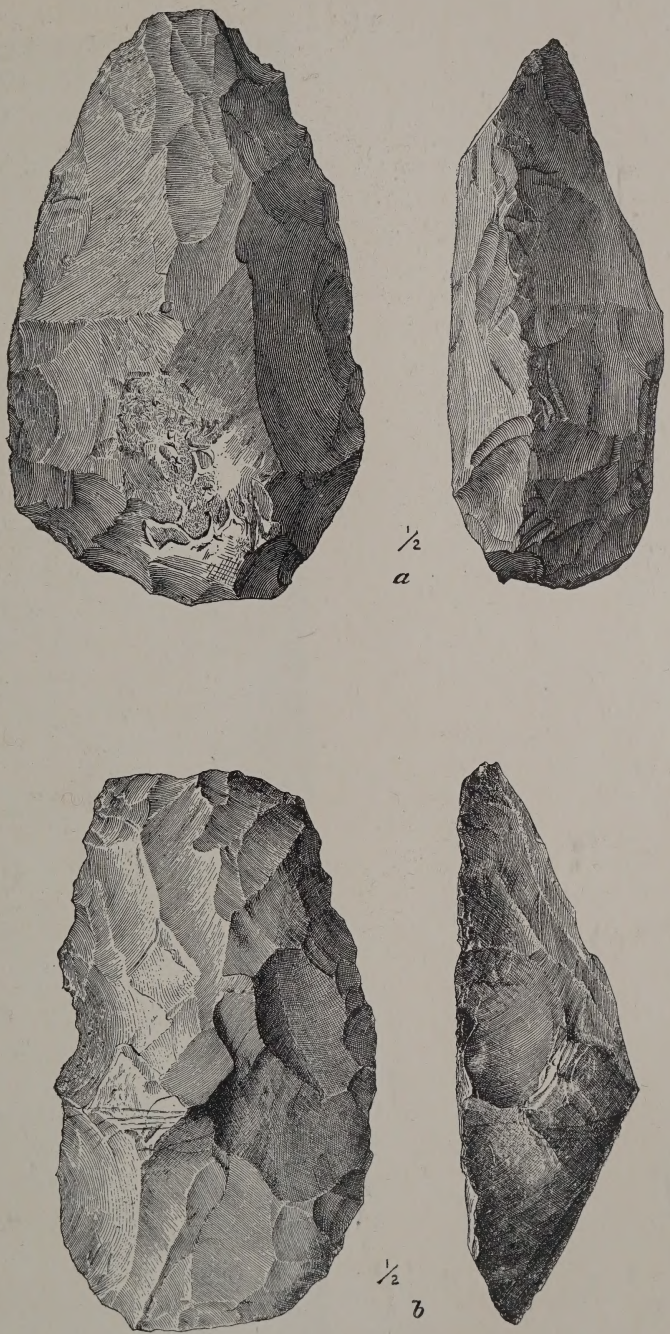
The oblong, oval blade, 1, prevails (this species is shown enlarged in plate V); 2, 3, and 8 are slight variations from this type. Some forms are rudely triangular, 4; others approach the discoid or circular form, 9. Some are long with parallel sides and squarish ends, 10, as if a chisel shape had been in view. Additional outlines illustrating oblong and pointed forms are given in 5, 6, and 7. This series of specimens probably indicates pretty closely the range of blank forms produced on the quarry site, and it is quite possible that some of the pieces included are completed forms (so far as this site is concerned), left on the site by accident.

In digging about the roots of the gnarled oak shown in plate XI, three or four handsome blades, almost perfect in outline and apparently not too thick for the ordinary uses to which such objects are usually devoted, were found scattered through the débris. It is one of these (1, plate IV) that is shown full size in plate V.

A progressive series of rejects is given in the two upper lines of plate IV. Each blank blade of the remaining line passed through just such a succession of morphologic steps. The small scale makes it difficult to realize the true nature and dimensions of the specimens, but some definite notion may be obtained by observing that the average size is about that of the piece shown in plate V. For convenience of insertion as a plate this series has been divided midway. Beginning with a lump of the raw material at the left we pass through successive steps of specialization to the most highly elaborated form.[1]

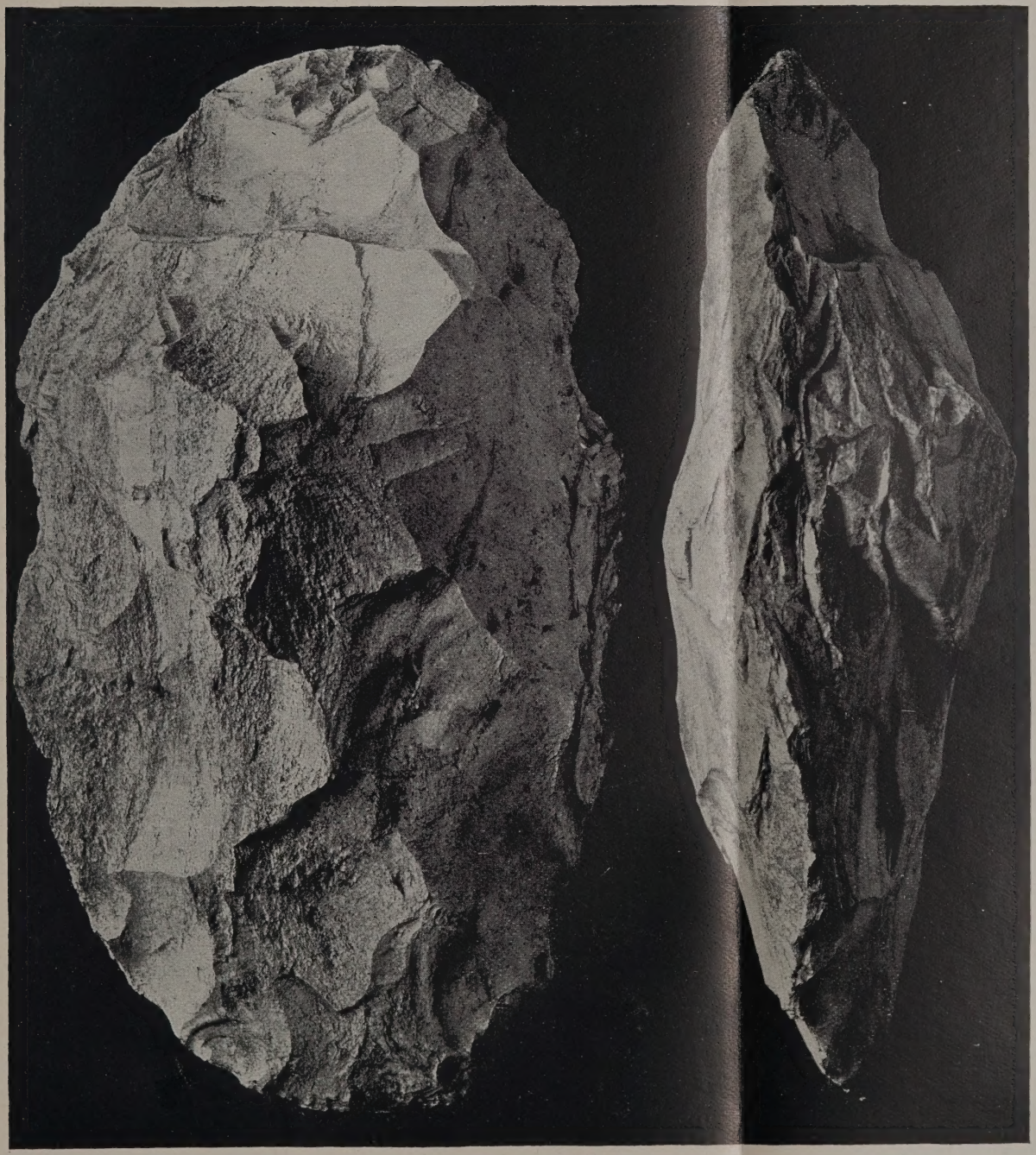
It happens that occasional specimens, by a semblance of specialization accidentally acquired, have assumed forms characterizing some of

[1] This is the type series shown in the exhibit of the Bureau of Ethnology in the World's Columbian Exposition.



REJECTS.

a. Massive reject resembling a common type of paleolithic implement; *b*, reject of ordinary type resulting from failure of flakes to carry across body of specimen.



REJECTAGE FROM FAILURE TO REMOVE HUMP, SEEN IN PROFILE AT THE RIGHT. ACTUAL SIZE.

FORM OF REJECT OCCURRING SOMEWHAT RARELY, THE SIDES BEING SLIGHTLY NOTCHED AS IF THE IMPLEMENT WAS TO BE HAFTED AS AN AX. ACTUAL SIZE.

the well known types of European paleolithic implements. Such a piece is shown in *a*, plate VI. It represents an abortive attempt at blade-making, the heavy end having been much battered in attempts to reduce the thickness. This specimen was so discolored by lichens that a good photograph could not be made. An additional example of rejection from too great thickness is given in *b*, on the same plate. In this case a pronounced hump has developed on one side, and repeated blows on the edge of the specimen employed to remove the excrescence have only tended to increase the difficulty. Plate VII is intended to show still more fully this important class of rejects. One variety recurring somewhat rarely is shown in plate VIII. The sides are obscurely notched, giving an ax-like outline, but it can not be determined whether or not this was intentional, representing the beginning of some peculiar specialization, or whether it is the result of repeated attempts to reduce the great thickness of the middle part of the specimen by strokes first on one edge and then on the other. These specimens are nearly all highly convex on both sides.

Besides the varieties of shop refuse, rejects and broken incipient implements, referred to and illustrated above, there are among the rejectage many interesting fortuitous shapes—shapes produced in shaping implements but not themselves the subject of the shaping operations. There are flakes and fragments in great diversity of shape. Fracture is often eccentric and unique forms are produced, some of which are so suggestive as to lead the operator to the fashioning of new and unheard of forms. The long slender flakes are often excellent knife blades, and many must have been utilized in the arts without modification. Others are slender and dagger-like, making effective perforators or piercing tools or weapons.

In shaping the quarry blades the most marked tendency toward abortive fracture is in the direction of too great thickness. Fracture by blows delivered on or near the edge of the specimen does not carry across the face of the specimen, but rises quickly, resulting in high backs or peaks with facets recalling those of a turtle's back. Common forms have already been presented. Very often these forms are pronounced pyramids, as shown in *a*, plate IX. Eccentric shapes occur, such as that shown in *c*, where a curved spawl has been worked on one side only with the view of reducing the convexity. These shapes grade imperceptibly into other conical or pyramidal forms, which are cores resulting from the removal of flakes for some unknown use—perhaps as knives—or to be carried away for the manufacture of small arrow points, scrapers, and the like. They resemble the well known cores of obsidian, so common in Mexico, from which thin blade-like flakes were removed for knives and razors. Two specimens of these cores are shown in plate X. It is very hard to draw the line between such cores and the high-backed failures previously mentioned, and we class them as cores only because it seems unlikely that the flaking could have

been done with the hope of reducing the thickness and securing a blade or any form of implement of which we have knowledge.

If flakes were removed to be used in arrow-making they were carried away as flakes, for there is not a trace of the manufacture of small articles at this site, the smallest unbroken worked piece found in several days' examination being more than 3 inches long. The flakes removed from the cores, as indicated by the facets, were in many cases as long as this, but they were usually thin and fragile; and, if used for implements that required further elaboration, they must have been flaked by pressure, a process not employed so far as observed in or about the quarry.

HAMMERSTONES.

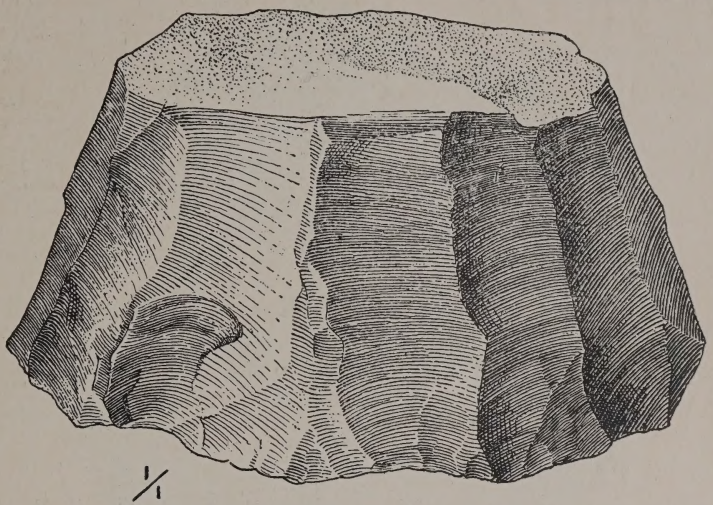
The hammerstones found associated with the débris of the quarry shops do not differ materially from those found on similar sites in other parts of the country. They are not so numerous as elsewhere, but it is probable that good stone was scarce in the region. Water-worn bowlders and masses of quartzite were used, but tough pieces of the chert reduced to discoidal or globular shape are found in greater numbers. A specimen of rather small size is shown full size in plate XI. It is a mass of gnarled chert, flaked and battered into shape. These hammers vary in diameter from 2 to 8 inches or more.

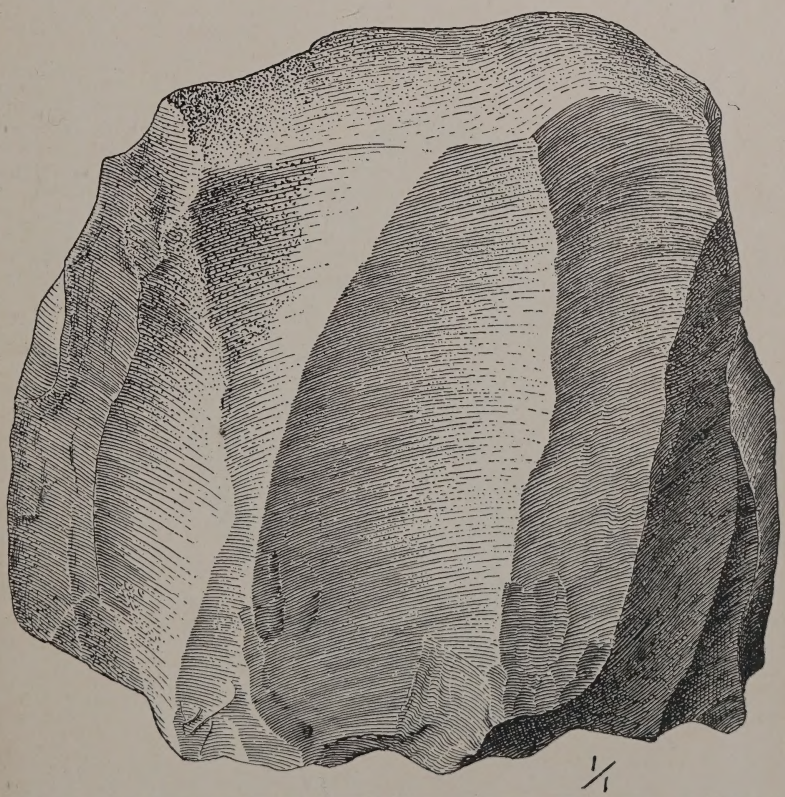
AGE.

A glance at the quarry-shop phenomena is sufficient to convince one that the work is not of high antiquity. The pits are still quite deep, and the débris is not compacted or filled or covered with earth or vegetable matter. Some pits have appearance of greater age than others, and the same is true of the shops, but the difference is not so marked as to suggest widely separated periods of work. Occupation was evidently confined to a single period. The pits and trenches were dug in the forest, and it seems probable that the older oaks were standing when the work was done. Strangely enough a glance over the site at the present time shows that nearly all the older trees stand on the ridges of undisturbed ground between the excavations, whilst some of the younger ones grow in the pits. In order to determine the meaning of this phenomenon I selected one of the most antiquated trees on the quarry site—a gnarled and stunted oak of the variety locally known as post oak—and cleared away the débris about the roots. Shop refuse inclosed the base of the trunk, which had expanded in knotty lobes over the top of the flinty mass. The roots did not extend into the body of refuse, but were confined almost entirely to the underlying bank of original ground between two pits as imperfectly shown in plate XII. The appearances presented seemed to indicate that the tree stood here when the excavations were made, that the pitting was carried around it, that the trench was filled in with flinty refuse covering the base of the trunk, that this pre-

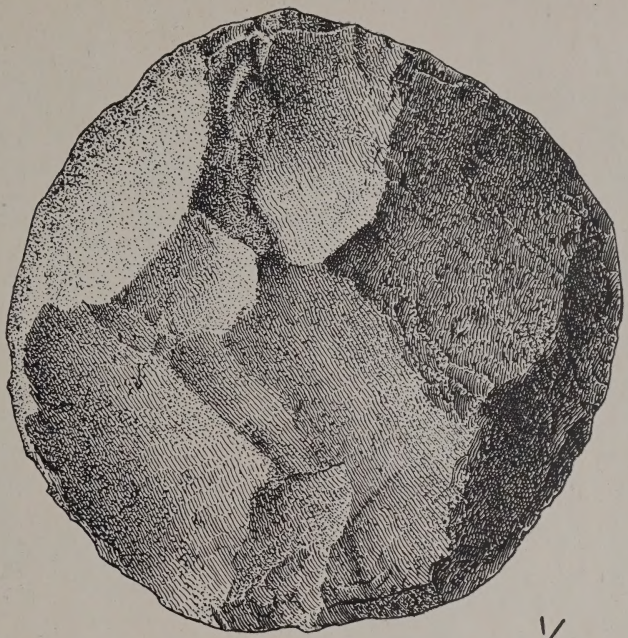
REJECTS.

a. Reject resembling nucleus from which flakes had been removed; *b*, probably a nucleus, but possibly only a reject from blade-making; *c*, reject of eccentric shape.

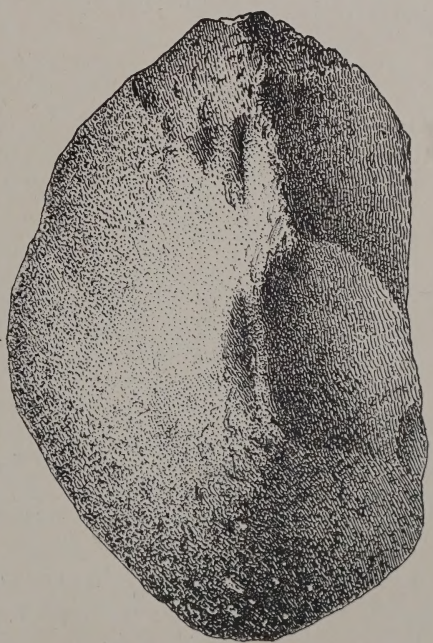




NUCLEI OR CORES FROM WHICH FLAKES HAVE BEEN REMOVED, PROBABLY FOR USE AS KNIVES.



1/1



HAMMERSTONE OF USUAL TYPE AND AVERAGE SIZE MADE OF COMPACT CHERT.

AGED OAK GROWING ON MARGIN OF ANCIENT PIT, THE ROOTS GROWING IN THE UNDISTURBED FORMATION AND BUT SLIGHTLY IN THE REFUSE FILLING THE PIT.

vented the free growth of the lower part of the trunk, stunted the tree and caused the growth of the encircling excrescence, and that the roots of the tree have not, since the quarrying operations ceased, grown sufficiently to penetrate to any extent the mass of flinty refuse surrounding the island of original ground. If these indications give a correct impression of the sequence of events, the quarry work was done during the lifetime of this tree, which is now probably not more than 150 years in age.

The appearance of freshness in the deposits of flakes and failures does not favor the idea of great age. Many of the shops are so well preserved and the flint refuse so white and so free from weathering that a long period can not have passed since the work was done. The oldest tree actually growing on or in the quarry shop refuse is not over 75 years in age. It is possible that the flinty refuse remaining long free from soil did not encourage the growth of vegetation, so that trees grew only on the spaces between the pits not deeply covered with flint; and, again, the accumulations of leaves and small growth in the pits may have caused the destruction of the young forest trees by affording fuel to forest fires. At any rate we shall have to use with much caution the argument against great age, based on the growth of large forest trees only on the spaces between the pits.

Having considered all points, I am strongly impressed with the belief that the period of occupation was not very remote, and that the last work done may come to or very nearly to the occupation of the region by the white man. It is not impossible that a study of the inhabited sites along the neighboring streams may in time yield data for determining something with respect to the period and to the peoples by whom the quarry work was conducted.